

Appl. No. 10/802,505
Response Dated February 7, 2006
Reply to Office Action dated October 7, 2005,

Amendments to the Specification

Please replace a paragraph added by a Preliminary Amendment included in this patent application when it was filed on March 16, 2004, to page 1 beginning at line 3 with the following text.

This is a continuation of United States patent application Serial No. 10/012,799 filed November 3, 2001, that issued May 11, 2004, as United States Patent no. 6,732,468 B2; which is a continuation of application Serial No. 09/403,121 filed February 23, 2000, that issued March 19, 2002, as United States Patent no. 6,357,164 B1; which was filed pursuant to 35 U.S.C. § 371 claiming priority from Patent Cooperation Treaty ("PCT") International Patent Application No. PCT/US98/07848 which was published 22 October 1998, under International Publication No. WO 98/46070.

Please replace with the following amended paragraphs the paragraphs that appear in the Preliminary Amendment included in the patent application when it was filed on March 16, 2004, which begin on page 3 at line 20.

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~~Briefly, the present invention in one aspect is a trawl assembled from a plurality of mesh cells. Each mesh cell includes at least three mesh bars. At least one portion of at least a first mesh bar in at least one of the mesh cells includes a first product strand having a core product strand enclosed within a sheath. The sheath is specifically formed to resist sliding along the core product strand during assembly and field operations of the trawl. The first product strand forming the first mesh bar is also mechanically connected to a second product strand forming a second mesh bar of the at least one mesh cell. The mechanical connection specifically includes a clamp which encloses at least the slide resistant, sheathed portion of the first product strand. In this way the sheathed portion of the first product strand disposed within the clamp resists separation of the sheath from the core product strand during trawl assembly and field operations thereby better preserving design characteristics of the first mesh bar and the trawl.~~

~~In one aspect, a thread, having a particularly preferred embodiment of the sheath, forms the first product strand of a trawl in accordance with the present~~

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~~invention. The particularly preferred embodiment for the sheath includes at least one spiraling product strand interwoven with other encircling product strands of the sheath. In this preferred embodiment, the spiraling product strand has a diameter that is larger than a diameter of each of the other encircling product strands.~~

~~In another aspect, the present invention is also an improved method for catching fish with a trawl system. The method includes a step of assembling the trawl system by combining components selected from a group consisting of a trawl, upper bridles and frontropes. The improved method for catching fish also includes deploying into a body of water as part of the trawl system the sheathed, first mesh bar from a vessel disposed on the surface of a body of water, and propelling at least the sheathed, first mesh bar through the body of water. in one aspect is a trawl assembled from a plurality of mesh cells. Each mesh cell includes at least three mesh bars. At least one portion of at least a first mesh bar in at least one of the mesh cells includes a first product strand having a core product strand enclosed within a sheath. The sheath is specifically formed to resist sliding along the core product strand during assembly and field operations~~

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~~of the trawl. The first product strand forming the first mesh bar is also mechanically connected to a second product strand forming a second mesh bar of the at least one mesh cell. The mechanical connection specifically includes a clamp which encloses at least the slide resistant, sheathed portion of the first product strand. In this way the sheathed portion of the first product strand disposed within the clamp resists separation of the sheath from the core product strand during trawl assembly and field operations thereby better preserving design characteristics of the first mesh bar and the trawl.~~

~~In one aspect, a thread, having a particularly preferred embodiment of the sheath, forms the first product strand of a trawl in accordance with the present invention. The particularly preferred embodiment for the sheath includes at least one spiraling product strand interwoven with other encircling product strands of the sheath. In this preferred embodiment, the spiraling product strand has a diameter that is larger than a diameter of each of the other encircling product strands.~~

~~In another aspect, the present invention is also an improved method for catching fish with a trawl system.~~

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~~The method includes a step of assembling the trawl system by combining components selected from a group consisting of a trawl, upper bridles and frontropes. The improved method for catching fish also includes deploying into a body of water as part of the trawl system the sheathed, first mesh bar from a vessel disposed on the surface of a body of water, and propelling at least the sheathed, first mesh bar through the body of water.~~ a trawl and an improved method for catching fish with a trawl system which includes the trawl. The trawl includes a plurality of mesh cells, each mesh cell including at least three mesh bars. During field operations of the trawl in a water entrained environment the trawl becomes disposed about a central axis, and at least a portion of at least one of the mesh bars of at least one of the mesh cells generates hydrodynamic lift that aids in bettering a performance characteristic of the trawl system. The at least one of the mesh cells which has at least one mesh bar that generates hydrodynamic lift includes:

1. a first product strand forming a first mesh bar of the at least one mesh cell;
2. a second product strand forming a second mesh bar of the at least one mesh cell; and

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3. a mechanical connection coupling together the first and the second product strands.

The improved method for catching fish with a trawl system includes the steps of:

1. assembling the trawl system by combining components selected from a group consisting of upper bridles, frontropes, and a trawl having the previously described characteristics; and
2. from a vessel disposed on a surface of a body of water:
 - a. deploying into the body of water as part of the trawl system the first and the second product strands forming mesh bars of the at least one mesh cell which has at least one mesh bar that generates hydrodynamic lift; and
 - b. propelling at least the first and the second product strands forming mesh bars of the at least one mesh cell through the body of water.

Coupling together the first and the second product strands by the mechanical connection betters the fish catching method by improving the performance characteristic of the trawl which is selected from a group consisting of increased trawl volume, improved trawl shape, reduced vibration, reduced noise, and reduced drag.

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Please replace with the following amended paragraph the paragraph beginning on page 9 at line 36 which starts with the phrase "FIGs. 28a through 28c" that was previously amended in the Response to the February 28, 2005, Office Action which was received by the USPTO on July 27, 2005.

FIGs. 28a through 28c are plan views illustrating various different configurations for corkscrew-shaped product strands; and

Please replace with the following amended paragraph the paragraph beginning on page 10 at line 1 which starts with the phrase "FIGs. 29" that was previously amended in the Response to the February 28, 2005, Office Action which was received by the USPTO on July 27, 2005.

FIG. 29 is a plan view of a mesh bar in which one product strand spirals around another product strand; and

Please cancel the five (5) paragraphs that were added by the Response to the February 28, 2005, Office Action which was received by the USPTO on July 27, 2005, the five (5) added paragraphs follow

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the paragraph which ends on page 10 in line 2 with the phrase "spirals around another product strand.", the first of the added paragraphs begins with the phrase "FIG. 30a is a top view of a work station."

Please cancel the paragraph that was added by the Response to the February 28, 2005, Office Action which was received by the USPTO on July 27, 2005, the added paragraph follows the paragraph which ends on page 12 in line 38 with the phrase "is adequate as a bonding material.", the added paragraph begins with the phrase "As shown in FIG. 30a, two (say first and second) strands 60'."